



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary Fire Break Ridge Sale 341-07-23

District: Tillamook

Date: 9/13/06

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$246,542.84	\$75,774.62	\$322,317.46
		Project Work	(\$44,450.00)
		Advertised Value	\$277,867.46



Timber Sale Appraisal Timber Description Fire Break Ridge Sale 341-07-23

"STEWARDSHIP IN FORESTRY"

District: Tillamook

Location: Portions of Sections 11, 12, 13 and 14 T2N R9W W.M. Tillamook County, Oregon

Date: 9/13/06

Stand Stocking: 20%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	14	0	95
Western Hemlock / Fir	14	0	95
Alder (Red)	14	0	90

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Alder (Red)	Total
2S	124	194	0	318
2S 12"+	0	0	20	20
3S	332	760	0	1,092
3S 10" - 11"	0	0	35	35
4S	110	240	0	350
4S 8" - 9"	0	0	163	163
Total	566	1,194	218	1,978

Comments: Pond Values Used: 2nd Quarter Calendar Year 2006.

Western Red Cedar Stumpage = Pond Value minus Logging Cost
 $\$685/\text{MBF} = \$1,000/\text{MBF} - \$315/\text{MBF}$

Hauling costs adjusted to make equivalent to \$700 daily truck cost.

Hauling Cost Calculation Douglas-fir:

$\$700 - \% \text{ Profit \& Risk } (\$700 / 1.20) = \$583 \text{ Daily Truck Cost.}$

$\$583 \text{ Daily Truck Cost} / (2 \text{ trips per day} \times 3.6 \text{ mbf per load}) = \$80.97/\text{MBF Hauling Cost.}$

Hauling Cost Calculation Western Hemlock:

$\$700 - \% \text{ Profit \& Risk } (\$700 / 1.20) = \$583 \text{ Daily Truck Cost.}$

$\$583 \text{ Daily Truck Cost} / (3 \text{ trips per day} \times 3.5 \text{ mbf per load}) = \$55.52/\text{MBF Hauling Cost.}$

Hauling Cost Calculation Red Alder:

$\$700 - \% \text{ Profit \& Risk } (\$700 / 1.20) = \$583 \text{ Daily Truck Cost.}$

$\$583 \text{ Daily Truck Cost} / (3 \text{ trips per day} \times 3.2 \text{ mbf per load}) = \$60.73/\text{MBF Hauling Cost.}$

Other Costs (with Profit & Risk to be added):

Brand and paint: $\$2/\text{MBF} \times 1978 \text{ MBF} = \$ 3,956$

Truck assist 19 acres of Area 1: $286 \text{ MBF} \times \$25/\text{MBF} = \$ 7,150$

Truck assist 24 acres of Area 2: $212 \text{ MBF} \times \$25/\text{MBF} = \$ 5,300$

Tractor swing yarding 4 acres of Area 2: $35 \text{ MBF} \times \$33.09 = \$ 1,158$

TOTAL Other Costs (Profit and Risk to be added) = \$ 17,564

Other Costs (No Profit and Risk):

Vacating road segments following operations

(see Section 2130 Road Maintenance): Points "C to D" \$ 4,109

Grass seeding areas of disturbed soil Points "A to B" and "E to F" \$558

TOTAL Other Costs (No Profit and Risk): \$ 4,667

ROAD MAINTENANCE

Grading - 2 times

Maintenance $\$500/\text{Mile} \times 9.7 \text{ miles} \times 2 \text{ gradings} / 1,978 \text{ MBF} = \$ 4.90$

Maintenance rock

$15 \text{ cubic yards}/\text{MBF}/\text{mile} = 15 \times 1.9 \text{ MMBF} \times 8 \text{ miles} = 230 \text{ cubic yards}$

$230 \text{ yards at } \$7.00/\text{yard to load and haul} / 1,978 \text{ MBF} = \0.81

TOTAL ROAD MAINTENANCE COST = \$ 5.71



Timber Sale Appraisal

Logging Conditions

Fire Break Ridge

Sale 341-07-23

"STEWARDSHIP IN FORESTRY"

Combination#: 1	Douglas - Fir	34.99%	
	Western Hemlock / Fir	96.38%	
	Alder (Red)	94.00%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding: No
Logging System:	Cable: Medium Tower >40 - <70		Process: Stroke Delimber
Tree Size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	4		Bd. Ft./Load: 3,900
Cost/MBF:	\$189.15		
Machines:			
	Log Loader (A)		
	Stroke Delimber (A)		
	Tower Yarder (Medium)		
Combination#: 2	Douglas - Fir	1.05%	
	Western Hemlock / Fir	3.62%	
	Alder (Red)	6.00%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: Yes
Logging System:	Track Skidder		Process: Manual Falling/Delimiting
Tree Size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	6		Bd. Ft./Load: 3,900
Cost/MBF:	\$139.55		
Machines:			
	Log Loader (B)		
	Track Skidder		
Combination#: 3	Douglas - Fir	63.96%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: No
Logging System:	Cable: Medium Tower >40 - <70		Process: Stroke Delimber
Tree Size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
Loads/Day:	4		Bd. Ft./Load: 3,500
Cost/MBF:	\$234.47		
Machines:			
	Log Loader (A)		
	Stroke Delimber (A)		
	Tower Yarder (Medium)		



Timber Sale Appraisal Logging Costs Fire Break Ridge Sale 341-07-23

"STEWARDSHIP IN FORESTRY"

Date: 9/13/06

Operating Seasons: 1.0

Profit & Risk: 20%

Project Costs: \$44,450

Other Costs (P/R): \$17,564

Slash Disposal: \$0

Other Costs: \$4,667

Road Maintenance: \$5.71

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$80.97	2.0	3.6
Western Hemlock / Fir	\$55.52	3.0	3.5
Alder (Red)	\$60.73	3.0	3.2



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Logging Costs Breakdown Fire Break Ridge Sale 341-07-23

Costs	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
Logging	217.62	187.35	186.17
Road Maintenance	6.01	6.01	6.34
Fire Protection	1.37	1.37	1.37
Hauling	85.23	58.44	67.48
Other (P/R appl.)	8.88	8.88	8.88
Profit & Risk	63.82	52.41	54.05
Slash Disposal	0.00	0.00	0.00
Scaling	2.00	2.00	2.00
Other	2.36	2.36	2.36
Total	387.29	318.82	328.65

Amortization	0.00	0.00	0.00
Pond Value	618.78	415.57	676.24
Stumpage	231.49	96.75	347.59
Amortized	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary Fire Break Ridge Sale 341-07-23

Amortized

	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
MBF	0.00	0.00	0.00
Value	0.00	0.00	0.00
Total	0.00	0.00	0.00

Unamortized

	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
MBF	566.00	1,194.00	218.00
Value	231.49	96.75	347.59
Total	131,023.34	115,519.50	75,774.62

Gross Timber Sale Value

Recovery \$322,317.46

Prepared by: David Wells

Date: 9/13/06

District: Tillamook

Phone: (503) 842-2545



PROJECT SUMMARY SHEET

Sale: Fire Break Ridge

CONSTRUCTION

Point	A to B	13+00	stations =	\$6,575.52
Point	C to D	20+85	stations =	\$11,683.28
Point	E to F	1+00	stations =	\$694.96
SUBTOTAL CONSTRUCTION				\$18,953.76

IMPROVEMENT

Point	C to D	26+15	stations =	\$14,653.13
Point	E to F	6+75	stations =	\$4,690.99
SUBTOTAL IMPROVEMENT				\$19,344.12

RECONSTRUCTION

Point	A to B	7+00	stations =	\$3,540.66
SUBTOTAL IMPROVEMENT				\$3,540.66

MOVE IN

\$2,610.85

GRAND TOTAL

\$44,449.39

SUMMARY OF CONSTRUCTION COST

Sale:	Fire Break Ridge				Road: A to B
Construction -	13+00 0.25	stations miles			Reconstruction -
					7+00 0.13
					stations miles
CLEARING AND GRUBBING -					
Scattering		0.920	acres @	\$980.00	per acre = <u>\$901.60</u>
				TOTAL CLEARING AND GRUBBING	
					\$901.60
EXCAVATION -					
Road Earthwork		20.00	sta. @	\$140.00	per sta. = \$2,800.00
Construct Turnout (Sta. 7+00)		1	@	\$60.00	each = \$60.00
Construct Turnaround (Sta. 16+35)		1	@	\$75.00	each = \$75.00
Construct Landing (Sta. 20+00)		1	@	\$250.00	each = \$250.00
				TOTAL EXCAVATION	
					\$3,185.00
ENDHAUL -					
Spread & compact Fill (Sta. 1+15 - 2+60 & 4+45 - 7+20 & 9+20 - 10+90)		6	hrs. @	\$145.00	per Hour = <u>\$870.00</u>
				TOTAL ENDHAUL	
					\$870.93
CULVERTS - MATERIALS & INSTALLATION					
	<u>Culverts</u>				
	36	LF of 18"		<u>\$612.00</u>	
				0	LF of 24" \$0.00
	<u>Half Round</u>				
	10	LF of 21"		<u>\$177.80</u>	
				0	LF of 30" \$0.00
	<u>Culvert Stakes & Markers</u>				
	2	stakes		<u>\$16.00</u>	
	1	markers		<u>\$8.00</u>	
				<u>\$24.00</u>	
				TOTAL CULVERTS	
					\$813.80
ROCK					
Junction Rock (Sta. 0+00)		5	cy. of	Crushed	@ \$6.61
0+00 to 20+00		945	cy. of	Pit-Run	@ \$3.34
Landing (Sta. 20+00)		50	cy. of	Pit-Run	@ \$3.48
					per c.y. = \$33.05
					per c.y. = \$3,156.30
					per c.y. = <u>\$174.00</u>
				TOTAL ROCK	
					\$3,363.35
SPECIAL PROJECTS					
Grade and shape road -		20.00	stations @	\$14.00	per station \$280.00
Roll subgrade w/ vibratory roller prior to rocking -		20.00	stations @	\$13.20	per station \$264.00
Remove large stumps -		1.50	hours @	\$145.00	per hour \$217.50
Grass seed and fertilize -		1.00	acres @	\$220.00	per acre \$220.00
				TOTAL SPECIAL PROJECTS	
					\$981.50
GRAND TOTAL					\$10,116.18

SUMMARY OF CONSTRUCTION COST

Sale:

Firebreak Ridge

Road: C to D

Construction -

20+85 stations
0.39 miles

Improvement - 26+15 stations
0.50 miles

CLEARING AND GRUBBING -

Widening	1.190	acres @	\$660.00	per acre =	\$785.40	
Scattering	2.440	acres @	\$980.00	per acre =	\$2,391.20	
Endhaul	0.98	acres @	\$1,500.00	per acre =	\$1,470.00	
TOTAL CLEARING AND GRUBBING						\$4,646.60

EXCAVATION -

Road Earthwork (Sta. 2+85 - 29+00)	26.35	sta. @	\$90.00	per sta. =	\$2,371.50	
Road Earthwork (Sta. 29+00 - 40+50)	11.50	sta. @	\$140.00	per sta. =	\$1,610.00	
Sta. 0+00 - 2+85 (common)	776	cy. @	\$1.40	per c.y. =	\$1,086.40	
Sta. 40+50 - 45+20 (common)	236	cy. @	\$1.40	per c.y. =	\$330.40	
Sta. 40+50 - 45+20 (rippable rock)	98	cy. @	\$3.20	per c.y. =	\$313.60	
Widening (Sta. 11+00 - 12+00)	85	cy. @	\$1.28	per c.y. =	\$108.80	
Widening (Sta. 24+60 - 26+00)	392	cy. @	\$1.28	per c.y. =	\$501.76	
Partial Removal of Large Fills (Sta. 10+70, 12+20, 19+95, & 21+75)	3	Hrs. @	\$145.00	per hour =	\$435.00	
Place Logs for cribbing (29+00 - 36+00 & 40+50 - 45+20)	5	Hrs. @	\$145.00	per hour =	\$725.00	
Turnouts (Sta. 14+45 & 38+50)	2	@	\$60.00	each =	\$120.00	
Landing (Sta. 47+00)	1	@	\$250.00	each =	\$250.00	
TOTAL EXCAVATION						\$7,852.46

ENDHAUL -

Large Fills	2	Hrs. @	\$70.00	per Hour =	\$140.00	
Road Earthwork (Sta. 0+00 - 2+85)	657	cy. @	\$2.43	per c.y. =	\$1,596.51	
Widening (Sta. 11+00 - 12+00)	85	cy. @	\$2.60	per c.y. =	\$221.00	
Widening (Sta. 24+60 - 26+00)	392	cy. @	\$2.83	per c.y. =	\$1,109.36	
Spread & compact Fills	6	Hrs. @	\$145.00	per Hour =	\$870.00	
Spread & compact Waste	2	Hrs. @	\$145.00	per Hour =	\$290.00	
TOTAL ENDHAUL						\$4,226.87

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	146	LF of 18"	<u>\$2,482.00</u>		74	LF of 24"	<u>\$1,776.00</u>
<u>Half Rounds</u>	10	LF of 21"	<u>\$177.80</u>		0	LF of 30"	<u>\$0.00</u>
<u>Culvert Stakes & Markers</u>	2	stakes	\$16.00				
	6	markers	<u>\$48.00</u>				
			<u>\$64.00</u>				
TOTAL CULVERTS							\$4,499.80

ROCK

Junction Rock (Sta. 0+00)	5	cy. of	Crushed	@	\$5.64	per c.y. =	\$28.20
Slope Stabilization (Sta. 19+80 - 20+05 & 21+50 - 22+00)	110	cy. of	Riprap	@	\$10.74	per c.y. =	\$1,181.40
Energy Dissipater (Sta. 10+70)	10	cy. of	Riprap	@	\$10.50	per c.y. =	\$105.00
0+00 to 2+85	130	cy. of	Pit-Run	@	\$4.07	per c.y. =	\$529.10
24+60 to 26+00	65	cy. of	Pit-Run	@	\$4.55	per c.y. =	\$295.75
Landing (Sta. 47+00)	50	cy. of	Pit-Run	@	\$4.94	per c.y. =	\$247.00
TOTAL ROCK							\$2,386.45

SPECIAL PROJECTS

Construct waste areas -	1.00	hours @	\$145.00	per hour	\$145.00		
Construct ditchouts (1+00) -	1.00	@	\$60.00	each	\$60.00		
Grade and Shape Road (ditch) -	2.15	stations @	\$15.50	per station	\$33.33		
Grade and Shape Road (outsloped) -	44.85	stations @	\$14.00	per station	\$627.90		
Roll subgrade w/ vibratory roller prior to rocking -	47.00	stations @	\$13.20	per station	\$620.40		
Remove large stumps -	2.00	Hours @	\$145.00	per Hour =	\$290.00		
Grass seed and fertilize -	1.58	acres @	\$220.00	per acre	\$347.60		
Mulching -	1.000	acres @	\$600.00	per acre	\$600.00		
TOTAL SPECIAL PROJECTS							\$2,724.23

GRAND TOTAL **\$26,336.41**

SUMMARY OF CONSTRUCTION COST

Sale:	Firebreak Ridge		Road:	E to F	
Construction -	1+00	stations	Improvement -	6+75	stations
	0.02	miles		0.13	miles
CLEARING AND GRUBBING - Piling			0.25 acres @	\$910.00 per acre =	\$227.50
				TOTAL CLEARING AND GRUBBING	\$227.50
EXCAVATION - Road Earthwork (6+75 - 7+75) Remove Pile in Road Prism to Waste Area (6+00 - 6+75)			1.00 sta. @ 12 Hrs. @	\$90.00 per sta. = \$145.00 per hour =	\$90.00 \$1,740.00
				TOTAL EXCAVATION	\$1,830.00
ENDHAUL - Pile to Waste Area			12 Hrs. @	\$70.00 per hour =	\$840.00
				TOTAL ENDHAUL	\$840.00
ROCK Junction (Sta. 0+00) 0+00 to Landing (Sta. 7+75)	7+75	5 350 50	cy. of cy. of cy. of	Crushed Pit-Run Pit-Run	@ @ @
				\$5.91 per c.y. = \$3.41 per c.y. = \$3.40 per c.y. =	\$29.55 \$1,193.50 \$170.00
				TOTAL ROCK	\$1,393.05
SPECIAL PROJECTS Construct waste areas - Grade and shape road - Roll subgrade w/ vibratory roller prior to rocking - Remove large stumps - Grass seed and fertilize - Mulching -			2.00 hours @ 7.75 stations @ 7.75 stations @ 1.00 Hour @ 0.68 acres @ 0.500 acres @	\$145.00 per hour \$14.00 per station \$13.20 per station \$145.00 per Hour \$220.00 per acre \$600.00 per acre	\$290.00 \$108.50 \$102.30 \$145.00 \$149.60 \$300.00
				TOTAL SPECIAL PROJECTS	\$1,095.40
GRAND TOTAL					\$5,385.95

ROCK DEVELOPMENT COST SUMMARY

Pit:	Upper Miami: Pit-Run	Location:	W1/2, SE 1/4, Sec. 11, T2N, R9W, W.M.
Sale:	Firebreak Ridge	Pit-Run:	1640 c.y.
Swell:	1.40	RipRap:	120 c.y.
Shrinkage	1.16	Total Truck Loads:	1760 c.y.
Drill Pct.:	0%	In Place Total:	1257 c.y.

Load RipRap:	\$1.40	/cu.yd.	x	120	cu.yds.	=	\$168.00
Load Dump Truck:	\$0.70	/cu.yd.	x	1640	cu.yds.	=	\$1,148.00
				Subtotal			\$1,316.00

Move in Loader	1	@	\$398.16	=	\$398.16	
Move in Excavator	1	@	\$460.64	=	\$460.64	
Move in Trucks	2	@	\$95.05	=	\$190.10	
Move in Trucks	Within Area: 1 Truck @ 2.5 Miles @ \$2.85/Mile				=	\$7.13
				Subtotal	\$1,056.03	

TOTAL PRODUCTION COSTS \$2,372.03

Base Cost Pit-Run=	\$1.05	Per Cu.Yd.
Base Cost RipRap=	\$5.35	Per Cu.Yd.

Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
A to B	\$1.54	\$0.75	\$1.05	\$3.34	945	\$3,156.30
Landing	\$1.68	\$0.75	\$1.05	\$3.48	50	\$174.00
C to D: 0+00 - 2+85	\$2.27	\$0.75	\$1.05	\$4.07	130	\$529.10
C to D: 24+60 - 26+00	\$2.75	\$0.75	\$1.05	\$4.55	65	\$295.75
Landing	\$3.14	\$0.75	\$1.05	\$4.94	50	\$247.00
C to D: Stab. Walls	\$3.99	\$1.40	\$5.35	\$10.74	110	\$1,181.40
C to D: Energy Dissipater	\$3.75	\$1.40	\$5.35	\$10.50	10	\$105.00
E to F	\$1.61	\$0.75	\$1.05	\$3.41	350	\$1,193.50
Landing	\$1.60	\$0.75	\$1.05	\$3.40	50	\$170.00
				Total C.Y.	1860	Sub Total
						\$7,310.05

TOTAL ROCKING COSTS \$7,310.05

Move-In Calculations

Sale: Firebreak Ridge

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
25.0	Highway	30
1.5	Main Lines	7
6.0	Steep Grades	2

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
0	Drill & Compressor	\$0.00		\$46.00	0.00	0.00	0	\$0.00	\$0.00
0	Brush Cutter	\$0.00		\$4.00	0.00	0.00	0	\$0.00	\$0.00
1	Graders	\$153.91		\$3.65	0.00	3.65	3.65	\$13.32	\$167.23
0	Loader (Small)	\$0.00	1	\$3.55	0.00	0.00	0	\$0.00	\$0.00
0	Loader (Med. & Large)	\$0.00	1	\$9.00	0.00	0.00	0	\$0.00	\$0.00
1	Rollers (smooth/grid) & Compactors	\$346.92		\$5.00	0.00	3.65	3.65	\$18.25	\$365.17
0	Excavators (Small)	\$0.00		\$22.00	0.00	0.00	0	\$0.00	\$0.00
0	Excavators (Med.)	\$0.00		\$35.50	0.00	0.00	0	\$0.00	\$0.00
1	Excavators (Large)	\$762.40	1	\$44.80	0.00	3.65	3.65	\$163.52	\$925.92
0	Tired Backhoes/Skidlers	\$0.00		\$3.00	0.00	0.00	0	\$0.00	\$0.00
0	Tractors (D6)	\$0.00	2	\$7.10	0.00	0.00	0	\$0.00	\$0.00
0	Tractors (D7)	\$0.00	2	\$11.30	0.00	0.00	0	\$0.00	\$0.00
1	Tractor (D8)	\$707.09	2	\$15.10	0.00	3.65	3.65	\$55.12	\$762.21
1	Dump Truck (10 cy +)	\$133.33		\$2.85	0.00	3.65	3.65	\$10.40	\$143.73
0	Dump Truck (Off Hiway)	\$0.00	1	\$4.75	0.00	0.00	0	\$0.00	\$0.00
1	Fire Truck	\$108.57		\$2.85	0.00	3.65	3.65	\$10.40	\$118.97
1	Water Truck (2500 Gal)	\$127.62		\$2.85	0.00	0.00	0	\$0.00	\$127.62
0	Jaw	\$1,066.00							
0	2-Stage Crusher	\$1,597.00							
0	3-Stage Crusher	\$2,489.00							

TOTAL MOVE-IN COSTS:	\$2,610.85
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ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	<u>5-way Junction Stockpile</u>	Location:	<u>NW 1/4, SE 1/4, Sec. 11, T2N, R9W, W.M.</u>
Site:	<u>Firebreak Ridge</u>	Road:	<u>15 c.y.</u>
Swell:	<u>1.46</u>		<u>c.y.</u>
Shrinkage:	<u>1.16</u>	Total Truck Loads:	<u>15 c.y.</u>
Drill Pct.:	<u>2%</u>	In Place Total:	<u>11 c.y.</u>

Load Dump Truck: \$0.70 /cu.yd. x 15 cu.yds. = \$10.50
 Subtotal \$10.50

Move in Loader Within Area: 1.1 Miles @ \$9/Mile = \$9.90
 Move in Trucks Within Area: 3 trucks @ 1.1 Miles @ \$2.85/Mile = \$9.41
 Subtotal \$19.31

Base Cost= \$1.99 Per Cu.Yd. **TOTAL PRODUCTION COSTS** \$29.81

Road Segment	Haul Cost /cu.yd.	Prod. Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST	
A to B: Junction (0+00)	2.17	2.45	1.99	6.61	5	33.05	
C to D: Junction (0+00)	1.20	2.45	1.99	5.64	5	28.20	
E to F: Junction (0+00)	1.47	2.45	1.99	5.91	5	29.55	
				Total C.Y.	15	Sub Total	90.80

TOTAL ROCKING COSTS 90.80



OREGON DEPARTMENT OF FORESTRY
CRUISE REPORT
Fire Break Ridge

1. **Type of Sale**

Partial Cut and Modified clearcut, Recovery

2. **Legal Description**

Sections 11, 12, 13 and 14, T 2 N, R 9 W, W.M. Tillamook County, Oregon

3. **Sale Acreage**

ACRES

	<u>Sale</u>	<u>Net</u>
Area 1 (Partial Cut)	76	69
Area 2 (Modified Clearcut)	41	41
Area 3 (Partial Cut)	55	53
Total	172	163

Sale Acres

Area within the Timber Sale Boundary signs

Net acres

Used for calculating the advertised volume.

Sale acres less areas of low stocking, hardwoods, roads, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

4. **Cruising Procedures**

A. Cruise Method

On Area 1, 18 variable radius plots were taken based on a 400' by 400' square grid. On Area 2, a total of 19 variable radius plots were taken. The initial 11 plots were taken based on a 400' by 400' square grid. To improve the stand table accuracy and lower the standard error (SE) additional cruise lines were established ½ ways within the grid creating a plot distribution in a diamond pattern measuring 283' on the diagonal. Area 3 had 15 plots located on a 350' by 350' square grid. All conifers 8 inches DBH and greater and all hardwoods 10 inches DBH and greater were measured and graded on these plots.

B. Plot size

A basal area factor of 40 was used for all the areas. The point of observation was at 4.5 feet.

C. Grading System

All trees were graded according to Columbia River Log Scaling and Grading Rules. Douglas-fir was measured to a 6-inch top outside bark, Hemlock and other conifers were measured to a 7-inch top outside bark, and hardwood trees were measured to a 9-inch top outside bark, all favoring 40-foot lengths. All heights and diameters were measured

to the nearest foot or nearest 1-inch respectively. Diameters were measured at a height of 4.5 feet. Conifers less than 20 board feet and hardwoods less than 30 board feet were not recorded.

5. Computation Procedure

Plot data was entered into Super A.C.E. 98 program for computation of basal area, stand tables, diameters and grade. This data was then entered into the Volume Summary Worksheet to compute sale volumes for sale timber only. The standard error for the cruise was 15.5% for Area 1; 15.9% for Area 2 and 13.8% for Area 3.

6. Hidden Defect and Breakage

A 5% deduction was applied to conifer volume and a 10% deduction to the alder volume to account for defect and breakage not identified with the cruise.

7. Timber Description

All of the sale areas were burned in the 1933 Tillamook Fire and Area 2 was burned again by the 1945 Wilson River Fire. The areas were salvage logged in the 1950's; Areas 1 and 2 naturally regenerated and Area 3 was planted in 1962. There has been no stand management since establishment. Areas 1 and 3 are moderately dense hemlock and Area 2 is moderately sparse Douglas-fir. The Douglas-fir has moderate to severe symptoms of Swiss needle cast. The alder was aerially sprayed with herbicides in the 1970's.

8. Cruiser Names/Dates

Wells/ Winslow/ Phillips; January, February, March 2006.

9. Revenue Distribution

FDF: 100%

Tax Code: 78% -56, 22% - 56-1

Deed Number: 15

Rehab obligation: 34%

10. Attachments

Volume Summary

Stand Tables

Logging Plan



Fire Break Ridge

Volume Summary

Area 1					
69 acres					
SPECIES	Gross MBF/ Acre	Net MBF/ Acre	Net MBF	Hidden D&B	Adj Net Vol MBF
Hemlock	11.1	11.0	759	5%	721
Douglas-fir	1.5	1.5	104	5%	99
Alder	3.6	3.5	242	10%	218
TOTAL	16.2	16.0	1105		1038

Area 2					
41 acres					
SPECIES	Gross MBF/ Acre	Net MBF/ Acre	Net MBF	Hidden D&B	Adj Net Vol MBF
Douglas-fir	9.4	9.3	381	5%	362
TOTAL	9.4	9.3	381		362

Area 3					
53 acres					
SPECIES	Gross MBF/ Acre	Net MBF/ Acre	Net MBF	Hidden D&B	Adj Net Vol MBF
Hemlock	9.6	9.4	498	5%	473
Douglas-fir	2.2	2.1	111	5%	105
TOTAL	11.8	11.5	609		578

TOTAL SALE VOLUME			
SPECIES	MBF	% D&B	Net Vol. (MBF)
Hemlock	1257	5%	1194
Douglas-fir	596	5%	566
Alder	242	10%	218
TOTAL	2095		1978

TC TSTNDSUM		Stand Table Summary													
		Project FIRE B R											AREA 1		
T02N R09W S11 T0122											T02N R09W S11 T0122				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	1		Date: 06/12/200		Time: 1:53:32PM		
02N	09W	11	100	0122	1.00	18	113								
S	Sample	FF	Av	Trees/	BA/	Logs	Average Log	Net	Net	Net	Net	Totals			
Spc	DBH	Trees	Ht	Acres	Acres	Acres	Net	Net	Tons/	Cu.Ft.	Bd.Ft.	Tons	Cunits	MBF	
T		16'	Tot				Cu.Ft.	Bd.Ft.	Acres	Acres	Acres				
WH	7	1	84	17	9.076	2.22									
WH	8	1	85	10	7.054	2.22									
WH	10	4	84	59	16.187	8.89	12.27	11.6	46.4	4.61	142	569	5	1	1
WH	11	1	84	133	3.248	2.22	6.50	12.2	50.0	2.53	79	325	3	1	0
WH	12	2	85	82	5.707	4.44	5.71	21.1	70.0	3.84	120	399	4	1	0
WH	13	3	85	78	7.208	6.67	11.85	15.8	59.3	6.00	187	703	6	2	1
WH	14	3	85	87	6.327	6.67	12.65	16.9	60.0	6.84	214	759	7	2	1
WH	15	2	85	99	3.574	4.44	7.15	21.5	82.7	4.93	153	591	5	2	1
WH	16	5	85	107	8.065	11.11	16.13	26.5	106.6	13.70	428	1,719	14	4	2
WH	17	1	84	108	1.444	2.22	2.89	30.5	120.0	2.82	88	346	3	1	0
WH	18	2	85	119	2.501	4.44	6.26	29.0	112.0	5.81	181	701	6	2	1
WH	19	1	85	138	1.105	2.22	3.32	30.9	130.0	3.28	103	431	3	1	0
WH	20	5	85	124	5.014	11.11	14.03	35.4	147.1	15.93	497	2,064	16	5	2
WH	22	3	84	116	2.503	6.67	5.86	45.3	195.8	8.49	265	1,147	8	3	1
WH	23	1	77	125	.798	2.22	2.39	34.6	143.3	2.65	83	343	3	1	0
WH	24	2	85	141	1.403	4.44	3.50	54.6	272.7	6.11	191	955	6	2	1
WH	Totals	37	85	77	81.214	82.22	110.50	24.7	100.0	87.54	2,732	11,053	88	27	11
WL	8	1	85	48	6.059	2.22	6.06	5.6	20.0	1.08	34	121	1	0	0
WL	9	1	85	21	5.639	2.22	5.64	4.4	20.0	.79	25	113	1	0	0
WL	11	2	85	65	7.125	4.44	10.55	8.9	36.5	3.00	94	385	3	1	0
WL	12	2	85	96	5.756	4.44	8.58	15.4	60.0	4.23	132	515	4	1	1
WL	13	1	85	47	2.526	2.22	2.53	15.7	50.0	1.27	40	126	1	0	0
WL	14	3	84	82	6.611	6.67	8.75	22.7	74.9	6.34	199	655	6	2	1
WL	16	1	79	66	1.653	2.22	1.65	31.1	120.0	1.64	51	198	2	1	0
WL	17	1	85	92	1.393	2.22	2.79	28.1	105.0	2.51	78	293	3	1	0
WL	18	1	85	101	1.230	2.22	2.46	34.4	130.0	2.70	85	320	3	1	0
WL	20	1	85	150	.989	2.22	2.97	39.7	163.3	3.77	118	484	4	1	0
WL	21	1	84	135	.924	2.22	2.77	36.8	153.3	3.27	102	425	3	1	0
WL	22	1	84	100	.842	2.22	1.68	49.7	175.0	2.68	84	295	3	1	0
WL	23	5	85	107	3.940	11.11	9.46	47.8	198.4	14.47	452	1,877	14	5	2
WL	24	1	84	133	.725	2.22	2.18	47.9	180.0	3.33	104	392	3	1	0
WL	25	3	84	112	1.971	6.67	5.26	46.9	197.5	7.90	247	1,038	8	2	1
WL	26	1	84	142	.598	2.22	1.79	63.1	270.0	3.62	113	484	4	1	0
WL	28	2	85	101	1.032	4.44	2.06	64.6	249.5	4.25	133	513	4	1	1
WL	32	1	87	127	.391	2.22	1.17	82.2	353.3	3.08	96	414	3	1	0
WL	35	2	84	127	.665	4.44	2.00	91.5	461.7	5.84	183	921	6	2	1
WL	38	1	87	130	.282	2.22	.85	125.8	663.3	3.41	106	561	3	1	1
WL	Totals	32	85	77	50.352	71.11	81.20	30.5	124.8	79.19	2,475	10,132	79	25	10
DL	12	1	84	78	3.028	2.22	6.06	9.1	40.0	1.52	55	242	2	1	0
DL	15	1	76	98	1.911	2.22	3.82	18.9	60.0	1.99	72	229	2	1	0
DL	17	2	81	84	2.890	4.44	5.78	22.5	72.6	3.58	130	420	4	1	0
DL	20	1	87	124	1.008	2.22	3.03	32.0	140.0	2.66	97	424	3	1	0
DL	21	1	84	84	.907	2.22	1.81	38.4	105.0	1.91	70	190	2	1	0
DL	23	1	87	147	.805	2.22	2.41	40.3	193.3	2.68	97	467	3	1	0
DL	24	1	84	86	.713	2.22	1.43	51.1	165.0	2.01	73	235	2	1	0
DL	26	2	84	133	1.243	4.44	3.73	53.1	221.6	5.43	198	827	5	2	1
DL	28	1	83	128	.520	2.22	1.56	61.6	253.3	2.64	96	395	3	1	0
DL	42	1	84	114	.231	2.22	.46	75.7	285.0	.96	35	132	1	0	0
DL	43	1	87	134	.226	2.22	.68	135.0	726.7	2.51	91	492	3	1	0
DL	Totals	13	83	99	13.482	28.89	30.77	33.0	131.7	27.89	1,015	4,052	28	10	4

HEMLOCK TAKE

HEMLOCK LEAVE

DOG FIR LEAVE

Stand Table Summary													T02N R09W S11 T0122			
TC TSTNDSUM													T02N R09W S11 T0122			
Project FIRE B R													Page: 2			
T02N R09W S11 T0122													Date: 06/12/20			
Twp Rge Sec Tract													Time: 1:53:32PM			
02N 09W 11 100													Type 0122			
Acres 1.00													Plots 18			
Sample Trees 113																
S Spec	T	Sample DBH	FF Trees	Av Ht 16'	Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
RA		12	6	80	67	17.045	13.33	17.05	17.6	61.3	8.27	301	1,045	8	3	1
RA		13	3	80	63	7.087	6.67	7.09	22.0	66.8	4.29	156	473	4	2	0
RA		14	6	79	51	12.483	13.33	12.48	19.8	63.6	6.80	248	794	7	2	1
RA		15	1	80	56	1.741	2.22	1.74	28.8	70.0	1.38	50	122	1	1	0
RA		17	2	79	89	2.772	4.44	4.20	32.3	109.8	3.72	136	461	4	1	0
RA		18	1	79	78	1.230	2.22	2.46	25.6	85.0	1.73	63	209	2	1	0
RA		19	1	80	71	1.105	2.22	2.21	26.3	90.0	1.61	58	199	2	1	0
RA		22	1	80	79	.873	2.22	1.75	40.5	100.0	1.95	71	175	2	1	0
RA		Totals	21	80	64	44.336	46.67	48.97	22.1	71.0	29.74	1,082	3,478	30	11	3
DF		9	1	84	77	4.611	2.22	4.61	11.3	40.0	1.48	52	184	1	1	0
DF		12	1	84	101	2.650	2.22	5.30	11.8	45.0	1.75	63	238	2	1	0
DF		13	1	83	60	2.338	2.22	2.34	22.4	60.0	1.49	52	140	1	1	0
DF		15	1	83	67	1.911	2.22	3.82	14.5	55.0	1.58	56	210	2	1	0
DF		18	1	83	125	1.286	2.22	3.86	23.1	90.0	2.54	89	347	3	1	0
DF		19	1	83	148	1.165	2.22	3.50	29.5	113.3	2.94	103	396	3	1	0
DF		Totals	6	84	88	13.962	13.33	23.43	17.7	64.8	11.79	415	1,517	12	4	2
NF		17	1	85	92	1.361	2.22	2.72	19.7	70.0	1.29	54	191	1	1	0
NF		24	1	85	90	.690	2.22	1.38	55.4	205.0	1.84	76	283	2	1	0
NF		30	1	85	82	.441	2.22	.88	78.2	310.0	1.66	69	273	2	1	0
NF		Totals	3	85	90	2.492	6.67	4.98	40.0	149.8	4.78	199	747	5	2	1
RC		14	1	65	60	2.079	2.22	2.08	25.5	50.0	1.24	53	104	1	1	0
RC		Totals	1	65	60	2.079	2.22	2.08	25.5	50.0	1.24	53	104	1	1	0
Totals			113	83	76	207.917	251.11	301.92	26.4	103.0	242.18	7971	31,083	242	80	31

ALDER

DOUGL FIR
TAKE

AREA 1

AREA 2

Stand Table Summary

Project FIRE B R

T02N R09W S11 T0124

T02N R09W S11 T0124

Twp Rge Sec Tract
02N 09W 11 200

Type
0124

Acres
1.00

Plots
19

Sample Trees
76

Page: 1
Date: 06/06/2006
Time: 1:30:42PM

DOUGLAS FIR - TAKE

DOUGLAS FIR LEAVE

Spc	T	Sample		Av		Trees/BA/Logs Acre Acre Acre	Average Log		Net Cu.Ft.	Net Cu.Ft.	Net Bd.Ft.	Totals			
		DBH	Trees	FF 16'	Ht Tot		Net Cu.Ft.	Net Bd.Ft.				Tons Acre	Cunits	MBF	
DF	9	1	81	21	4.765	2.11	4.77	4.4	20.0	.59	21	95	1	0	0
DF	10	1	80	29	4.102	2.11	4.10	5.8	20.0	.68	24	82	1	0	0
DF	11	2	80	34	6.499	4.21	6.50	8.3	24.9	1.51	54	162	2	1	0
DF	12	1	80	28	2.551	2.11									
DF	13	2	81	36	4.364	4.21	4.36	14.5	30.0	1.81	63	131	2	1	0
DF	14	1	80	65	1.914	2.11	1.91	26.7	70.0	1.46	51	134	1	1	0
DF	15	2	82	77	3.433	4.21	5.10	22.3	66.2	3.24	114	338	3	1	0
DF	16	5	80	74	7.541	10.53	12.01	21.6	66.3	7.39	260	796	7	3	1
DF	17	4	79	78	5.392	8.42	6.68	24.3	76.0	4.62	162	508	5	2	1
DF	18	5	80	72	6.052	10.53	12.10	23.3	71.8	8.01	281	869	8	3	1
DF	19	6	81	91	6.579	12.63	12.03	31.6	101.7	10.86	381	1,224	11	4	1
DF	20	6	83	86	5.844	12.63	11.69	34.8	112.4	11.59	407	1,314	12	4	1
DF	21	6	81	93	5.205	12.63	11.31	36.6	119.9	11.78	414	1,357	12	4	1
DF	22	4	79	74	3.234	8.42	5.66	40.7	105.6	6.56	230	597	7	2	1
DF	23	5	80	82	3.670	10.53	7.34	45.3	126.8	9.47	332	931	9	3	1
DF	24	5	81	75	3.374	10.53	5.38	46.3	133.7	7.09	249	720	7	2	1
DF	Totals	56	81	65	74.521	117.89	110.95	27.4	83.4	86.67	3,042	9,258	87	30	9
DL	25	4	79	87	2.447	8.42	4.29	53.4	157.1	6.32	229	674	6	2	1
DL	26	3	80	100	1.731	6.32	2.90	57.3	208.5	4.56	166	604	5	2	1
DL	27	2	84	104	1.079	4.21	2.69	58.3	230.1	4.31	157	618	4	2	1
DL	28	1	80	86	.492	2.11	.98	68.5	225.0	1.85	67	222	2	1	0
DL	31	2	81	91	.798	4.21	1.60	76.1	274.8	3.34	121	439	3	1	0
DL	32	1	80	88	.379	2.11	.76	89.5	300.0	1.87	68	228	2	1	0
DL	Totals	13	80	93	6.927	27.37	13.21	61.2	210.7	22.25	809	2,784	22	8	3
WH	12	1	79	77	2.726	2.11	2.73	20.0	50.0	1.71	55	136	2	1	0
WH	13	4	78	69	9.326	8.42	11.68	17.6	48.2	6.54	205	563	7	2	1
WH	18	1	80	68	1.232	2.11	2.46	23.3	80.0	1.83	57	197	2	1	0
WH	Totals	6	78	71	13.283	12.63	16.87	18.8	53.1	10.09	317	896	10	3	1
RA	13	1	79	56	2.215	2.11	2.22	17.2	50.0	1.05	38	111	1	0	0
RA	Totals	1	79	56	2.215	2.11	2.22	17.2	50.0	1.05	38	111	1	0	0
Totals		76	80	68	96.946	160.00	143.25	29.4	91.1	120.06	4206	13,049	120	42	13

TC		TSTNDSUM		Stand Table Summary											
				AREA 3											
				Project FIRE B R											
T02N R09W S11 T0120										T02N R09W S11 T0120					
Twp	Rge	Sec	Tract	Type			Acres	Plots	Sample Trees			Page:	1		
02N	09W	11	300	0120			1.00	15	87			Date:	05/02/200		
												Time:	1:07:20PM		
S Spc	T	Sample		Av	Trees/ Acres	BA/ Acres	Logs Acres	Average Log		Net Tons/ Acres	Net Cu.Ft. Acres	Net Bd.Ft. Acres	Totals		
		DBH	Trees	FF				Ht	Tot				Net Cu.Ft.	Net Bd.Ft.	Tons
WL	9	1	84	50	5.777	2.67	5.78	7.7	30.0	1.42	44	173	1	0	0
WL	11	1	84	104	4.192	2.67	4.19	18.5	70.0	2.49	78	293	2	1	0
WL	12	1	83	82	3.697	2.67	3.70	18.5	70.0	2.19	69	259	2	1	0
WL	13	1	85	110	2.723	2.67	5.45	18.1	70.0	3.15	99	381	3	1	0
WL	14	2	84	74	4.992	5.33	4.99	28.4	90.0	4.53	142	449	5	1	0
WL	15	1	85	64	2.144	2.67	2.14	31.5	90.0	2.16	68	193	2	1	0
WL	16	4	85	63	7.622	10.67	9.44	28.2	79.6	8.50	266	751	9	3	1
WL	17	3	85	86	5.121	8.00	10.24	26.0	94.7	8.54	267	970	9	3	1
WL	18	2	86	106	3.052	5.33	6.10	35.2	130.0	6.88	215	794	7	2	1
WL	20	1	88	96	1.198	2.67	2.40	41.1	150.0	3.15	98	359	3	1	0
WL	21	3	85	83	3.360	8.00	6.72	34.4	127.6	7.40	231	857	7	2	1
WL	23	1	87	105	.949	2.67	1.90	54.4	225.0	3.31	103	427	3	1	0
WL	24	2	86	101	1.698	5.33	3.40	59.5	197.5	6.46	202	671	6	2	1
WL	25	4	88	107	3.142	10.67	6.28	67.7	285.2	13.62	426	1,792	14	4	2
WL	27	1	86	113	.691	2.67	1.38	63.9	275.0	2.82	88	380	3	1	0
WL	29	1	88	106	.570	2.67	1.14	95.0	425.0	3.46	108	484	3	1	0
WL	30	1	80	94	.543	2.67	.54	74.2	290.0	1.29	40	158	1	0	0
WL	32	1	87	105	.469	2.67	.94	115.2	445.0	3.46	108	417	3	1	0
WL	Totals	31	85	83	51.938	82.67	76.73	34.6	127.8	84.83	2,651	9,809	85	27	10
WH	9	1	84	74	6.036	2.67	6.04	11.5	60.0	2.22	69	362	2	1	0
WH	10	5	84	86	25.083	13.33	34.97	9.5	42.8	10.64	332	1,497	11	3	1
WH	11	3	85	103	12.050	8.00	16.09	14.8	60.0	7.62	238	965	8	2	1
WH	12	4	86	107	13.277	10.67	22.92	15.7	61.4	11.46	359	1,407	11	4	1
WH	13	6	85	103	17.778	16.00	32.66	16.7	67.0	17.42	544	2,188	17	5	2
WH	16	2	86	96	3.822	5.33	7.64	24.6	95.1	6.02	188	727	6	2	1
WH	17	3	86	109	5.323	8.00	10.65	29.4	120.0	10.00	313	1,278	10	3	1
WH	21	2	87	98	2.207	5.33	4.41	46.8	152.4	6.61	206	673	7	2	1
WH	22	1	87	93	1.010	2.67	2.02	48.2	170.0	3.11	97	343	3	1	0
WH	Totals	27	85	96	86.584	72.00	137.40	17.1	68.7	75.10	2,348	9,439	75	23	9
DL	12	1	84	96	3.511	2.67	7.02	11.3	45.0	2.18	79	316	2	1	0
DL	13	1	85	95	2.984	2.67	5.97	14.3	60.0	2.34	85	358	2	1	0
DL	14	2	84	102	4.783	5.33	9.57	19.8	77.5	5.21	189	741	5	2	1
DL	15	4	85	99	8.550	10.67	17.10	22.3	86.2	10.50	382	1,473	11	4	1
DL	16	2	84	89	3.943	5.33	5.95	23.5	86.9	3.84	140	517	4	1	1
DL	Totals	10	84	97	23.771	26.67	45.61	19.2	74.7	24.07	875	3,405	24	9	3
DF	9	1	85	120	5.653	2.67	11.31	7.9	40.0	2.54	89	452	3	1	0
DF	11	1	84	108	3.898	2.67	7.80	11.7	50.0	2.60	91	390	3	1	0
DF	14	3	85	82	7.633	8.00	12.81	16.7	62.1	6.10	214	796	6	2	1
DF	17	1	87	90	1.796	2.67	3.59	24.4	90.0	2.49	87	323	2	1	0
DF	18	1	84	87	1.509	2.67	3.02	27.9	60.0	2.40	84	181	2	1	0
DF	Totals	7	85	99	20.489	18.67	38.52	14.7	55.6	16.13	566	2,142	16	6	2
RA	10	2	85	37	9.410	5.33	9.41	7.4	30.0	1.91	70	282	2	1	0
RA	11	1	79	44	3.898	2.67	3.90	9.1	30.0	.97	35	117	1	0	0
RA	12	3	80	62	10.249	8.00	10.25	17.5	67.2	4.94	180	689	5	2	1
RA	13	1	80	41	3.129	2.67	3.13	11.3	40.0	.98	35	125	1	0	0
RA	16	1	80	67	1.910	2.67	1.91	38.5	90.0	2.02	74	172	2	1	0
RA	20	1	80	49	1.222	2.67	1.22	45.6	80.0	1.53	56	98	2	1	0
RA	21	1	80	80	1.109	2.67	2.22	37.0	130.0	2.26	82	288	2	1	0

HEMLOCK TAKE

DOUGLAS-FIR TAKE

TC TSTNDSUM

AREA 3

Stand Table Summary

Project FIRE B R

T02N R09W S11 T0120

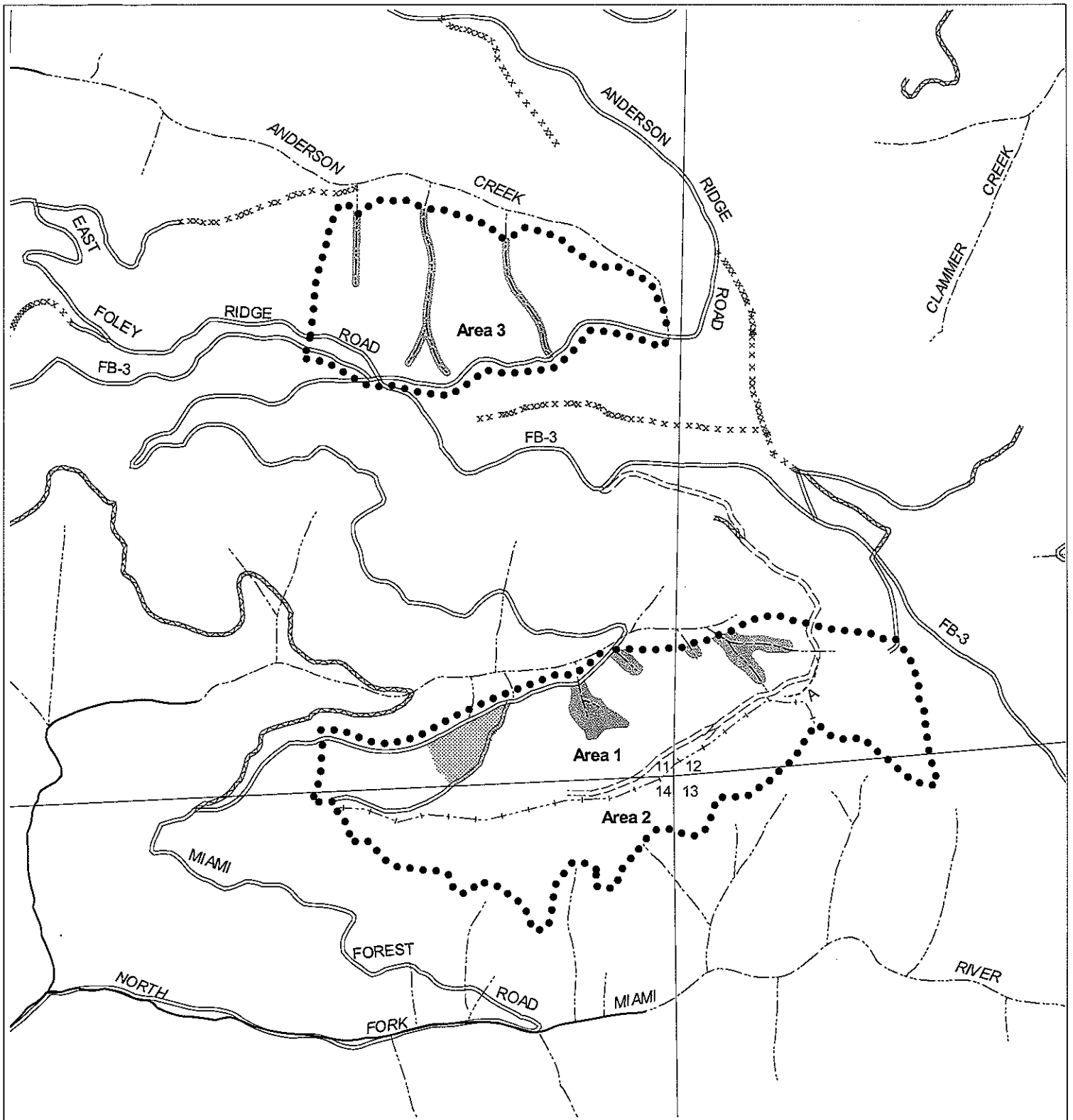
T02N R09W S11 T0120

Twp Rge Sec Tract
02N 09W 11 300

Type Acres Plots Sample Trees
0120 1.00 15 87

Page: 2
Date: 05/02/200
Time: 1:07:20PM

S Spc	T	Sample DBH	FF Trees	Av Ht 16' Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Cu.Ft.	Net Bd.Ft.	Totals			
								Net Cu.Ft.	Net Bd.Ft.			Tons Acre	Cunits	MBF	
RA	Totals	10	81	51	30.926	26.67	32.03	16.6	55.3	14.61	531	1,771	15	5	2
SS	8	1	82	48	7.271	2.67									
SS	15	1	85	67	2.173	2.67	2.17	31.5	90.0	1.78	69	196	2	1	0
SS	Totals	2	83	52	9.444	5.33	2.17	31.5	90.0	1.78	69	196	2	1	0
Totals		87	84	85	223.153	232.00	332.46	21.2	80.5	216.53	7040	26,763	217	70	27



LOGGING PLAN

Timber Sale Contract No. 341-07-23
 Fire Break Ridge
 Portions of Sections 11, 12, 13
 and 14, T2N, R9W, W. M.
 Tillamook County, Oregon

Area	Type of Operation	Acres	
		Gross	Net
1	Partial cut	76	69
2	Modified clearcut	41	41
3	Partial cut	55	53
Total		172	163



Tillamook District GIS
 4-12-2006

This product is for informational use and may not have been prepared for, or suitable for legal, engineering, or surveying purposes.



- Landing
- Ⓧ Domestic water supply intake
- Ⓜ Helicopter landing zone
- Ⓣ Truck turn-around
- ⊠ Survey corner
- ▭ Cable yarding
- ▨ Ground yarding
- ▩ Helicopter yarding
- ▧ Downhill yarding
- ▦ Buffer
- ▨ Non-required thinning
- Area boundary
- Sale boundary
- Ownership boundary
- Perennial Type-F stream
- Perennial Type-N stream
- Surfaced road
- === Unsurfaced road
- State/Federal highway
- County road
- ② Non-project road
- A— Swing road
- Legacy road
- xxx Blocked road
- OHV trail
- Non-motorized trail
- T T Transmission line